



347280

October 15, 1996

Illinois Environmental Protection Agency
Field Operations
Bureau of Land
2009 Mall Street
Collinsville, IL 62234

RE: 1198010003--Madison County
Chemetco, Inc.
ILD048843809
FOS

Attention: Mr. Kenneth G. Mensing
Regional Manager

Dear Mr. Mensing:

Enclosed please find three (3) copies of the *Revised Work Plan for the Immediate Response to the Zinc Oxide Spill* at Chemetco. The Revised Work Plan addresses the comments provided by the Illinois Environmental Protection Agency (IEPA) on September 30, 1996. The IEPA comments are listed below as well as Chemetco's response.

1. Chemetco must submit as-built scaled drawings of the impoundment area to the Agency.

Figures 1 and 2 show to a scale of 1" = 150' the spill area and the containment areas.

2. Chemetco must submit a new work plan containing a detailed description of the decontamination protocol at this site. The plan must include methods for disposal for decontamination of waste.

A revised work plan is submitted under this cover addressing decontamination protocol and disposal methods.

3. Inspections of the surface impoundment pursuant to 35 Il. Adm. Code 724.115 and 724.326 must be conducted on a daily basis. Chemetco must have contingencies in place to respond to detections of leaks in the impoundment.

The spill area has been divided into four separate containment areas. Daily inspections for freeboard and erosion will be conducted. Inspection records will be maintained at the facility. In case of leakage from one of the containment areas, the smaller containment areas were constructed within the original larger containment area. In the event one berm of the smaller areas is breached, a larger area will contain the material until the berm can be repaired.



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001

4. To avoid making another regulated unit during clean-up, it is recommended that you obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated soil and zinc oxide slurry waste on-site prior to disposal, do so only in containers or tanks for less than ninety days. Do not create regulated waste piles by storing hazardous waste in piles. The ninety (90) day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

No additional regulated units will be created during the removal and containment of the zinc oxide. It was necessary to separate the water from the zinc oxide, store the shredded vegetation, and stockpile contaminated limestone rock by creating smaller containment areas within the larger containment. However, no new units were created during this process, since the entire larger containment area will undergo closure.

5. Prevent further releases by capping the end of the 10 inch discharge pipe. Also locate the source of the discharge and insure that there are no further releases.

The 10 inch pipe was sealed with a 10" PVC cap approximately 50' south of where it crosses Oldenberg Road. The valve on the south side of Oldenberg Road has been shut off. The pipe and valve will be removed up to the south side of Oldenberg Road and a permanent seal installed to prevent any further releases.

6. The June 30, 1988 consent Order filed in the Circuit Court for the Third Judicial Circuit Madison County, Illinois states that zinc oxide that is placed on the land is not exempt from the requirements of the RCRA or State special waste requirements. Since the zinc oxide slurry discharge to the impoundment is characteristically hazardous for lead and cadmium, it must be managed as a hazardous waste. The waste removed from the impoundment must be sent to a facility with a USEPA Identification Number and must be permitted to accept the waste.

Chemetco has characterized the spilled material and determined it is zinc oxide. Chemetco agrees if the material were to be left in the spill area, i.e. disposed, it would need to be managed as a hazardous waste. However, since the material can be recycled for further metal reclamation, as is the current zinc oxide produced, the material does not meet the definition of a solid waste under 35 Ill. Adm. Code, Part 721. Specifically, 721.102(e) states materials are not solid wastes when recycled if they can be returned to the original process from which they are generated, without first being reclaimed. The spilled zinc oxide can be sold to existing customers without further reclamation. The spilled zinc oxide has been secured and contained to prevent any further releases to the environment until this issue is resolved. Chemetco acknowledges the apparent disagreement regarding the management of the zinc oxide and is willing to work with the Agency towards resolution of this issue and has initiated discussions with the Illinois Attorney General's Office regarding the 1988 Consent Order.

7. A detailed description of the dewatering process of the zinc oxide slurry in Chemetco's on-site filter presses must be submitted to the Agency before any dewatering takes place. This plan must include but not be limited to the following:

- a) Identify the cells which will be dedicated to the management of hazardous waste;

- b) Describe the flow of waste through the dewatering process;
- c) Provide a detailed description of how Chemetco will prevent the mixing of the current generation of zinc oxide with the zinc oxide removed from the impoundment. Chemetco must not mix the hazardous waste zinc oxide removed from the impoundment with the zinc oxide generated elsewhere in the plant;
- d) All accumulation of the zinc oxide slurry must be done in containers or tanks in compliance with 35 IAC 722.134 and 728.

At the current time, Chemetco is not anticipating using the on-site filter presses to dewater the zinc oxide. Instead the zinc oxide, will be dewatered by adding a drying agent such as lime in the field prior to loading into trucks. If in the event, Chemetco decides to use the on-site filter presses, the information requested above by the Agency will be submitted prior to the use of the tanks and presses.

8. The Illinois Environmental Protection Agency must be contacted at 618/346-5120 two (2) days prior to sending any waste to the on-site filter presses or associated tanks for dewatering.

The IEPA will be contacted two days prior to conducting any dewatering and/or shipment of the zinc oxide material.

9. The Agency must inspect each cell prior to receiving any hazardous zinc oxide waste.

See response to Item #7 above.

I trust this information along with the Revised Work Plan addresses all of the Agency's comments raised in the September 30, 1996 letter. If you have any questions please feel free to contact me at the number below.

Sincerely,



Cindy S. Davis
President

cc: Greg Cotter, Chemetco
George von Stamwitz, Armstrong, Teasdale, Schlafly and Davis
IEPA - Emergency Response Unit

CHEMETCO, INC.
WORK PLAN FOR THE IMMEDIATE RESPONSE TO ZINC OXIDE SPILL
Revised October 10, 1996

Prepared by:

CSD Environmental Services, Inc.
2220 Yale Boulevard
Springfield, IL 62703



2220 Yale Blvd., Springfield, IL 62703 • Phone 217-522-4085 • FAX 217-522-4087



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CHEMETCO, INC.
WORK PLAN FOR THE IMMEDIATE RESPONSE TO ZINC OXIDE SPILL
SEPTEMBER 25, 1996
Revised October 10, 1996

Prepared by: CSD ENVIRONMENTAL SERVICES, INC.
2220 Yale Boulevard
Springfield, IL 62703
217/522-4085
217/522-4087 (fax)

INTRODUCTION

An apparent spill of zinc oxide material was reported to the National Response Center and Illinois Emergency Management Agency on September 19, 1996. The spill was found during a routine RCRA Inspection conducted by the IEPA on September 18, 1996. Personnel from the United States Environmental Protection Agency (USEPA) were also present during the inspection. During the inspection, material that appeared to be zinc oxide was discharging from a pipe located south of Old Oldenberg Road. The IEPA and Chemetco, Inc. (Chemetco) collected samples of the water and of the sediment. Three sediment samples and one water sample were collected. Chemetco's samples were shipped to Environmental Analysis on the afternoon of September 18, 1996. Analysis was requested for total lead, cadmium, and zinc and TCLP on lead, cadmium and zinc. Sample results were received by Chemetco on September 27, 1996. Copies of the analytical results are provided as Attachment 1 to this work plan.

To ensure further releases from the pipe do not occur, a PVC plastic cap was temporarily placed over the end of the discharge pipe. The valve on the south side of Oldenberg Road has been shut off. The pipe and valve will be removed up to the south side of Oldenberg Road and a permanent seal installed to prevent any further releases.

This work plan addresses the temporary containment and removal of the apparent zinc oxide material. CSD Environmental Services, Inc. (CSD) has confirmed the release is confined to Chemetco's property. The work plan will be carried out in three phases. The first phase will focus on containment, the second phase will focus on dewatering of the area, and the final phase will be removal of the zinc oxide. A separate plan will be submitted proposing sampling locations, parameters, etc., for the closure of the incident.

PHASE I - CONTAINMENT

Initially a diversion channel was constructed to reroute the lake past the spill area. A Section 404 Permit, of the Clean Water Act (CWA), was required by the Army Corp of Engineers (Corps) to reroute the lake. A permit application was faxed to the Corps on Friday, September 20, 1996 with a request to begin construction on Saturday, September 21. The application consisted of a drawing Figure 1 showing the impacted area, the location of all proposed dams, and the diversion channel.

The following steps were conducted to achieve containment:

1. A road was constructed from the west side of the private lane to the west dam (see Figure 1 attached). This road was constructed using limestone rock. The road started at a height of about 2 feet at the private lane and gradually increased to about 5 feet at the west dam. The total length of this road was about 300 feet. Later the road was extended to intercept the south portion of the truck parking lot. This allows heavy equipment and trucks to enter the spill area without backing up. This will expedite the dewatering and removal of the zinc oxide material. This road is called the rock road/dam.
2. The north side of the rock road/dam was lined with 8 to 10 millimeter thickness polyethylene plastic to inhibit water from flowing under and reaching Long Lake. Limestone rock, was placed on top of the liner to hold it in place.
3. An earthen berm was constructed approximately 3 to 5 feet in height around the entire perimeter of the spill area. A drainage ditch was constructed to divert surface water to Long Lake around the impacted area.
4. A diversion channel 25 feet wide by 3 to 5 feet in depth was constructed to reroute water in Long Lake around the spill area.
5. Two dams were constructed on Long Lake to help in the diversion. The east dam is approximately 10 to 12 feet wide. The west dam is approximately 15 feet wide. Clean soil from the construction of the diversion channel was used to construct the dams.

PHASE II-DEWATERING

To separate the water and zinc oxide and allow heavy equipment access, two new berms within the containment area were necessary. Two containment areas were made, Containment Area #1 for storage of zinc oxide and Containment Area #2 for water. Refer to Figure 2 for the location of the containment areas. The containment areas will be inspected daily to monitor freeboard levels and erosion. Inspection records will be maintained at the facility. The smaller containment areas are constructed within the larger containment. In the event one berm of the smaller areas is breached, a larger area will contain the material.

Zinc oxide was pushed by a bulldozer into Containment Area #1 to allow construction of Area #2. Water was removed from Long Lake and the southwest corner of Containment Area #1 by excavating holes and placing a slotted 55 gallon drums in each. The purpose of the drums was to prevent solids from reaching the portable pumps used to transfer the water into Containment Area #2.

PHASE III-REMOVAL

Zinc oxide will be removed from Containment Area #3 - Long Lake first, followed by either Containment Area #1 or 2. Containment Area #4 does not contain any visible zinc oxide. Refer to Figure 2 for the location of the containment areas.

A. CONTAINMENT AREA #1

Zinc oxide will be removed by either pumping it to the southwest corner of Containment Area #1 or mixing it with a drying agent to enable excavation. A decision on the type of removal will be made based upon the moisture content of the zinc oxide material and economic and environmental considerations. The two processes are described below.

1. Slurry Method - The zinc oxide will be collected in a sump. The sump will have a screen placed over it to screen out foreign objects such as trees, roots, etc. The slurry will be handled in one of the following manners:
 - a. The slurry will be placed in a tanker truck and transported to Chemetco's plant. The slurry will be directly unloaded into a tank to separate the water and zinc oxide. The slurry will be routed to a filter press for further dewatering. The decanted water will be routed to the polish pits and used for cooling tower make up water. The filter cake will be sold for further reclamation.
 - b. The slurry will be pumped into a temporary tank and filter press set up at the containment area. Filter cake will be loaded into a roll off box and water will be routed back to Containment Area #2 for further handling as identified in Item a above. The filter cake will be sold for further reclamation
2. Use of a drying agent - "Code L Lime", a special type of lime used by the Illinois Department of Transportation for dewatering purposes, will be mixed with the zinc oxide to remove moisture. Once the material passes the paint filter test it will be transported for further reclamation. An MSDS sheet for "Code L Lime" is provided as Attachment 2. A test was conducted on Friday, October 4, 1996 to determine if "Code L Lime" is an effective drying agent. Two yards of "Code L Lime" was mixed with approximately 10 yards of zinc oxide in Containment Area #2. The "Code L Lime" was proved effective in reducing the moisture in the zinc oxide.

A field pilot test was also conducted to determine the best drying agent for reducing the leachability of lead and cadmium in zinc oxide. Further treatment of the soil,

after the zinc oxide is removed, may be necessary to meet clean up objectives. The test was conducted using both lime and triple super phosphate (common fertilizer).

Before beginning the test a sample (E-1), was collected of the pure zinc oxide. The first test was conducted using only lime as a drying agent. Lime and zinc oxide were mixed using a ratio of 25% lime and 75% zinc oxide. Sample (E-2) was then collected from this mixture for analyses. The second test consisted of mixing super triple phosphate with the zinc oxide and lime mixture at a ratio of 75% lime and zinc oxide to 25% triple super phosphate. A sample of the mixture (E-3) was then collected. All samples were analyzed for TCLP lead, cadmium and zinc. The samples were hand delivered to Prairie Analytical Systems in Springfield for rush analysis. Sample results showed triple super phosphate was very effective in binding the lead, cadmium and zinc. Treatment of the soil with triple super phosphate to bind the remaining metals may be an option. Sample results are provided in Attachment 3.

After all the visual zinc oxide is removed, sampling will be conducted for closure in accordance with the sampling and analysis plan discussed in Phase III - Section G.

B. CONTAINMENT AREAS 2 AND 4

Water in Containment Area #2 will be sampled to determine if it meets the existing NPDES discharge requirements. If the water meets the requirements, it will be pumped to the permitted outfall area for discharge. If the water does not meet the requirements, it will be transported to the plant for use as cooling tower make up water. After the water is removed from Containment Area #2, any visible zinc oxide will be removed and placed into Containment Area #1. Sampling will be conducted in Containment Areas 2 & 4 for closure in accordance with the sampling and analysis plan discussed in Phase III - Section G.

C. LONG LAKE - CONTAINMENT AREA #3

Before removing of the zinc oxide from Long Lake, two rock pads will be placed south of the rock road/dam to allow a trackhoe access across Long Lake. The trackhoe will remove all impacted vegetation and place it on the rock road/dam where another trackhoe will transport it to the shredder. The shredder will be located within the containment area. After the vegetation is removed and the lake is dewatered, the trackhoe will scrape the zinc oxide from Long Lake toward the rock road/dam. The trackhoe will place the zinc oxide into Containment Area #2. After all the visual zinc oxide is removed, sampling will be conducted for closure. If the sample results indicate the remaining soils are below the applicable objectives, the two rock pads will be removed. The rock forming the rock pads will be inspected and any affected rock will be washed at the decontamination pad to allow further use. The soil beneath the pads will be removed and placed into containment area #2. After all the visual zinc oxide is removed, sampling will be conducted for closure in accordance with the

sampling and analysis plan discussed in Phase III - Section G.

D. VEGETATION REMOVAL

A large portion of the spill area contained dense vegetation such as trees, shrubs, and plants. The vegetation was removed and fed into a grinder. The shredded material will be stored within the containment area. We anticipate using the material to help dry the zinc oxide. If this is not possible, the material will be mixed with the soil and disposed.

E. DECONTAMINATION PROCEDURES

All equipment will be decontaminated by high pressure steam cleaning following gross removal by scraping. All decontamination will be conducted on a decontamination pad constructed at the east edge of the rock dam/road. Refer to the Figure 2 for the location of the decontamination pad. All personnel entering the contaminated area must go through decontamination before entering a clean area in accordance with the Site Health & Safety Plan. All decontamination rinse waters and solids will be collected in a sump and transported to the containment area to be handled as the waste present in those areas.

F. DISPOSAL OPTIONS

The zinc oxide recovered from Long Lake and Containment Area #2 will be handled in the same manner as Chemetco's existing zinc oxide filter cake. The zinc oxide will be sold to existing customers for further metal reclamation.

G. CLOSURE

A sampling and analysis plan will be submitted to the IEPA for review. After concurrence from the IEPA of the plan is received sampling and analyses will be conducted and the results submitted to the IEPA. At the completion of the remediation, a closure plan will be submitted to the IEPA, Bureau of Land.

**The appearance of some of the images
following this page is due to**

Poor Quality Original Documents

and not the scanning or filming processes.

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(217) 525-5860**

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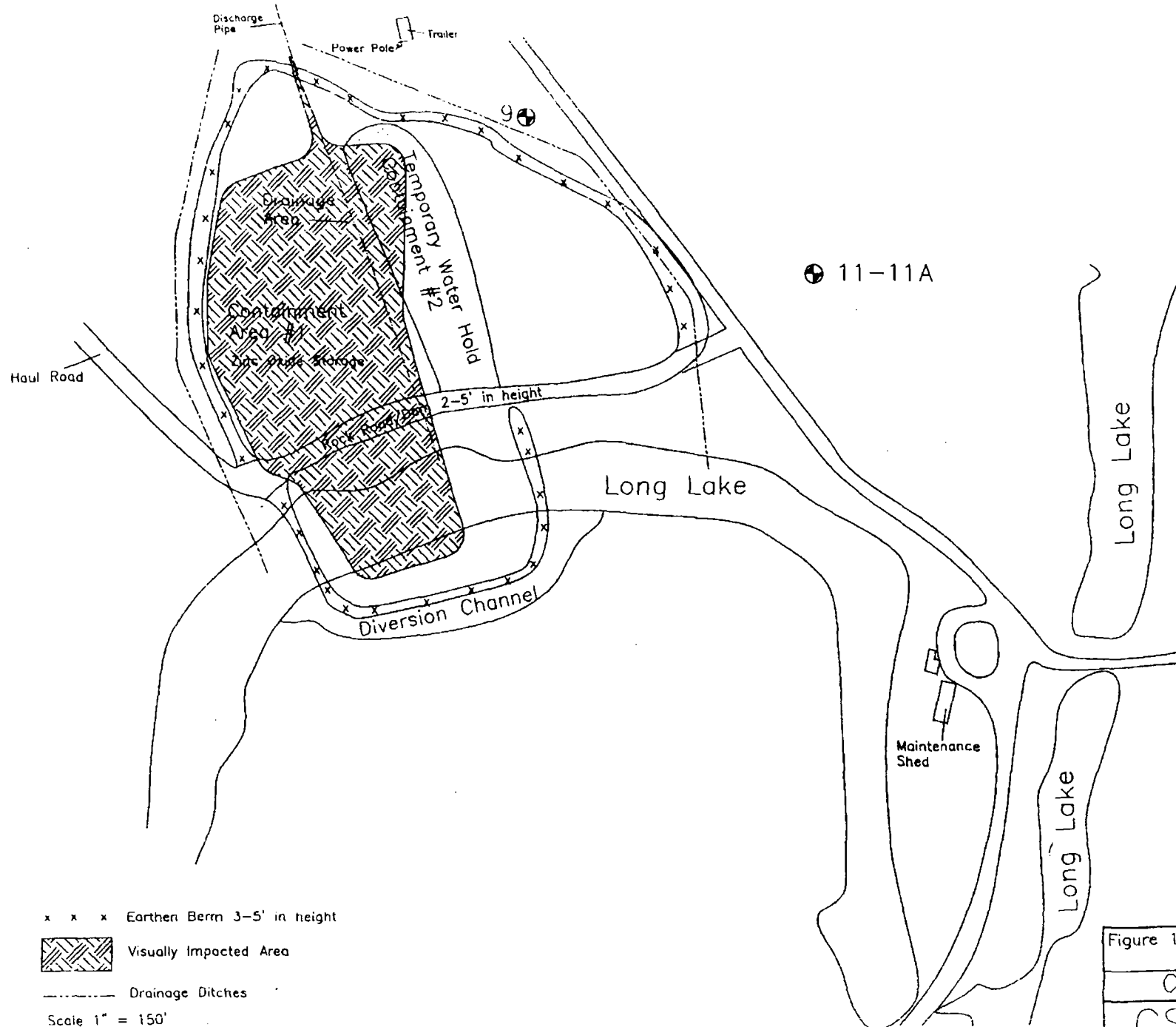


Figure 1: Location of Spill
Area - 10/7/96

Chemetco, Inc.

CSD Environmental
Services, Inc.

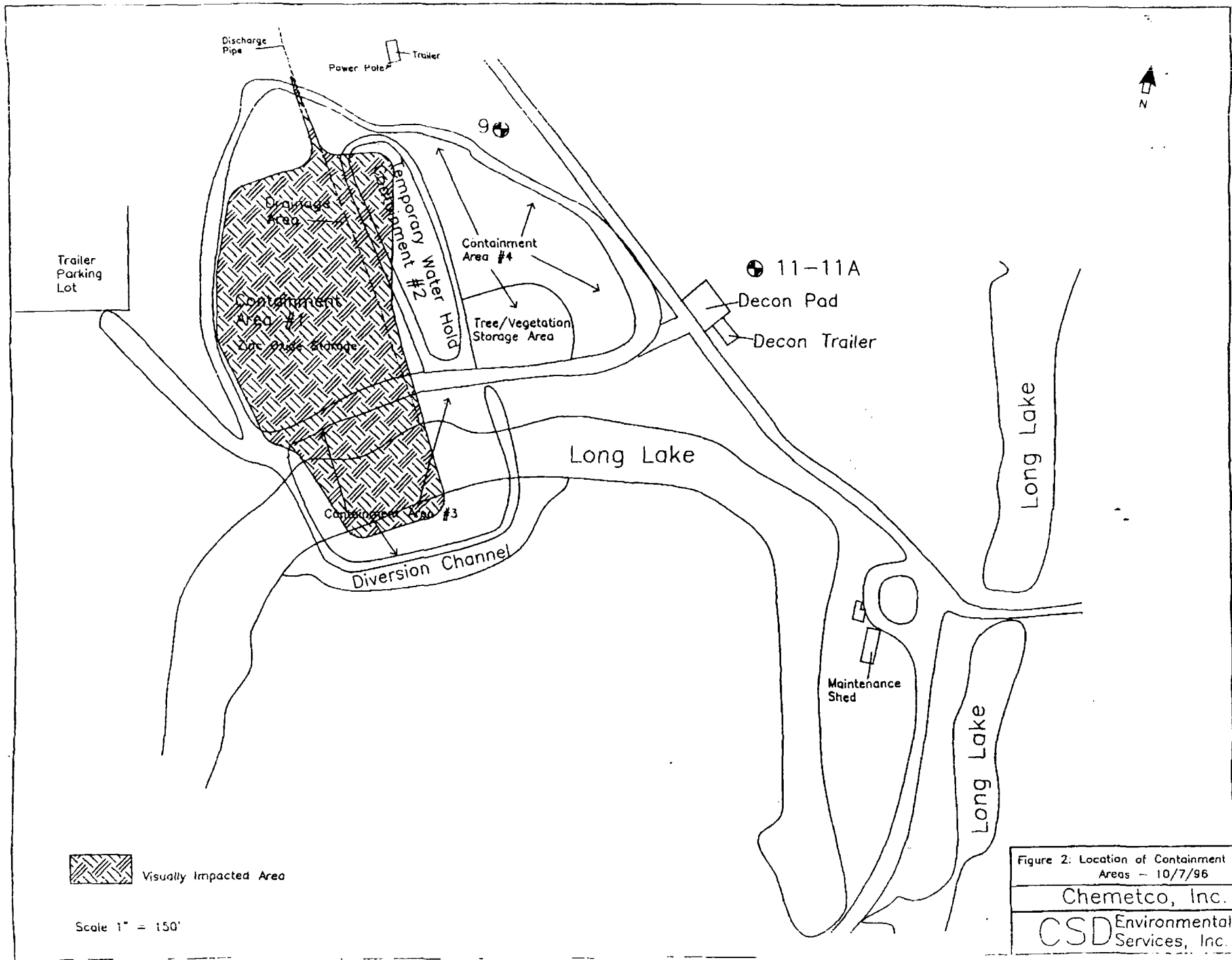


Figure 2: Location of Containment Areas - 10/7/96

Chemetco, Inc.

CSD Environmental Services, Inc.

ATTACHMENT 1
SAMPLE RESULTS FROM ENVIRONMENTAL ANALYSIS

TEST RESULTS REPORT
FOR CHEMETCO

LOG NUMBER	SAMPLE DESCRIPTION	RESULTS OF ANALYSIS	UNITS OF MEASURE
1815410	X101 c SAMPLE DATE:09/18/96		
	TCLP Lead	428	mg Pb/l
	TCLP Cadmium	26.8	mg Cd/l
	TCLP Zinc	1740	mg Zn/l
	Total Metals Prep for solids	1	
	Lead	3.10	% w/w
	Cadmium	754	ug/g
	Zinc	6.11	% w/w
	pH Value	8.25	10% Soln
	TC Leaching Proc.	Vol.55,#61	Fed.Reg.
	Total Metals Prep/Microwave	09/25/96	
1815411	X102 c SAMPLE DATE:09/18/96		
	TCLP Lead	76.2	mg Pb/l
	TCLP Cadmium	18.7	mg Cd/l
	TCLP Zinc	2920	mg Zn/l
	Total Metals Prep for solids	1	
	Lead	4.66	% w/w
	Cadmium	799	ug/g
	Zinc	8.28	% w/w
	pH Value	8.63	10% Soln
	TC Leaching Proc.	Vol.55,#61	Fed.Reg.
	Total Metals Prep/Microwave	09/25/96	
1815412	X103 c SAMPLE DATE:09/18/96		
	TCLP Lead	191	mg Pb/l
	TCLP Cadmium	27.4	mg Cd/l
	TCLP Zinc	2800	mg Zn/l
	Total Metals Prep for solids	1	
	Lead	5.71	% w/w
	Cadmium	1254	ug/g
	Zinc	10.7	% w/w
	pH Value	8.85	10% Soln
	TC Leaching Proc.	Vol.55,#61	Fed.Reg.
	Total Metals Prep/Microwave	09/25/96	
1815413	S001 c SAMPLE DATE:09/18/96		
	Cadmium	2.44	mg Cd/l
	Zinc	6.78	mg Zn/l
	Total Metals Prep/GTF AA	09/26/96	
	Lead	4.15	mg Pb/l
	Total Metals Prep/Microwave	09/25/96	

ATTACHMENT 2
MSDS SHEET FOR CODE L LIME

MISSISSIPPI LIME COMPANY - MATERIAL SAFETY DATA SHEET
OSHA HAZARD COMMUNICATION

PRODUCT IDENTIFICATION Code L	CHEMICAL ABSTRACT NUMBER MIXTURE	DATE PREPARED 05-May-85
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Section I

Manufacturer Mississippi Lime Company P.O. Drawer 81 Highway 81 Sta. Genevieve, MO 63870	24 Hour Emergency Contact Number (800) 437-6453	HMS RATING
	Telephone Number for Information (800) 437-6453	Health 3 Flammability 0 Reactivity 2 Protective Equip. E
	Signature of Preparer Mark H. DeLena	

Section II - Hazardous Ingredients / Identity Information

Hazardous Constituents (Specific Chemical Identity, Common Name)	OSHA PEL	ADGHI TLV	Other Limits Recommended	% (Optional)
Calcium Oxide (Quicklime)	CAS 1305-78-8	5 mg/m ³	2 mg/m ³	to 45 %
Calcium Hydroxide	CAS 1305-62-0	5 mg/m ³	5 mg/m ³	to 85 %
Crystalline Silica (Silica)	CAS 1480-80-7	0.1 mg/m ³	0.1 mg/m ³	(0.1 to 0.5 %)

Code L is not listed on the NTP, IARC, or OSHA lists of carcinogens. Crystalline silica, a component of this product, is listed by IARC and NTP but not by OSHA. IARC classifies crystalline silica as "probably carcinogenic to humans" on the basis that there is limited evidence for carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. "Limited evidence" means that a causal relationship is possible; however, other explanations such as a chance, bias or confounding factors cannot adequately be excluded. NTP also classifies crystalline silica on the basis of limited evidence as "a substance which may reasonably be anticipated to be a carcinogen" (May, 11/83).

Section III - Physical / Chemical Characteristics

Boiling Point (Calcium Oxide)	5162 °F	Specific Gravity (HF 0) = 1	3.00
Vapor Pressure (mm Hg)	NA	Melting Point	1078 °F
Vapor Density (Air = 1)	NA	Evaporation Rate	NA
Solubility in Water	-	0.2 % @ 0 °C	
Appearance and Color	Tan powder, odorless		

Section IV - Fire and Explosion Hazard Data

Flash Point	NA	Flammable Limits	NA
Extinguishing Method	NA		
Special Fire Fighting Procedures	NA		
Unusual Fire and Explosion Hazards	NA		

Section V - Reactivity Data

Stability	Unstable Stable	X	Conditions to Avoid	NA
Incompatibility (Materials to Avoid)	Acids, Fluorine			
Hazardous Decomposition or Byproducts	None			
Hazardous Polymerization	May Occur Will Not Occur	X	Conditions to Avoid	NA

MISSISSIPPI LIME COMPANY - MATERIAL SAFETY DATA SHEET
OSHA HAZARD COMMUNICATION

PRODUCT IDENTIFICATION Code L	CHEMICAL ABSTRACT NUMBER MIXTURE	DATE PREPARED 05-May-88
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Section VI - Health Hazard Data

Route(s) of Entry	Inhalation?	YES	Skin?	YES	Ingestion?	YES
Health Hazards	Acute	Corrosive to skin and eyes. Causes irritation and inflammation to mucous membrane and respiratory passages.				
	Chronic	Long term exposure can cause irritation, ulceration and perforation of nasal septum.				
Seriousness of	NTP2	IARC Monographs?		OSHA Registered?		
Oxide and Hydroxide	NO	NO		NO		
Crystalline Silica	YES	YES		Not as a carcinogen		
Signs and Symptoms of Exposure		Irritation of skin, eyes, and respiratory tract.				
Medical Conditions Commonly Aggravated by Exposure		Respiratory disease, skin condition.				
Emergency and First Aid Procedures		Remove to fresh air. Wash dust with soap and water. Flush out eyes with generous amounts of water. Drink plenty of water if swallowed. See Physician.				

Section VII - Precautions for Safe Handling

Steps To Be Taken in Case Material is Released or Spilled	Normal clean-up procedures. Care should be taken to avoid causing dust to become airborne. Vacuum cleaning systems are recommended.
Waste Disposal Method	Dispose of in accordance with Federal, State and Local regulations.
Precautions to Be Taken in Handling	Store away from incompatible substances
Other Precautions	None

Section VIII - Control Measures

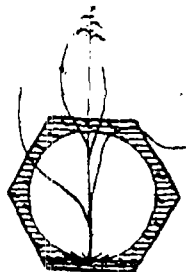
Respiratory Protection			
Dust filter mask			
Ventilation	Local Exhaust -	To Maintain TLV's and PEL's	Special - NA
	Mechanics (-	To Maintain TLV's and PEL's	Other - NA
Protective Gloves			
Leather or Rubber			
Eye Protection			
Well fitted goggles			
Other Protective Clothing			
Long sleeve shirts and pants			
Work/Hygiene Practices			
Maintain dust exposure limits below TLV's and PEL's. If not possible use respiratory protection.			

Section IX - Transportation

Not regulated by Department of Transportation unless product is shipped by air.

ATTACHMENT 3
SAMPLE RESULTS FROM PRAIRIE ANALYTICAL SYSTEMS, INC.

(4)



Prairie Analytical Systems, Inc.

An Environmental and Agricultural Testing Laboratory



Page 1 of 1

CSD Environmental Services, Inc.
2220 Yale Boulevard
Springfield, IL 62703

Date Sampled: 25 September 1996
Date Received: 26 September 1996
Date Analyzed: 27 September 1996
Date Reported: 27 September 1996

Project: Chemetco

PAS Project Code: CSD-120

Sample Description:
PAS Sample No.:

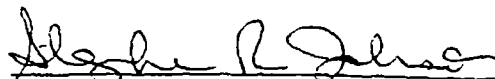
E-1	E-2	E-3
9609263995	9609263996	9609263997

TCLP Metal Analysis

Parameters	Detection Limit mg/l	Result mg/l	Result mg/l	Result mg/l	E.P.A. Method
Cadmium	0.004	26.5	21.3	2.22	6010A
Lead	0.042	195	80.1	0.20	6010A
Zinc	0.002	1083	801	49.7	6010A

Miscellaneous Analysis

Parameters	Detection Limit	Result	Result	Result	E.P.A. Method
pH (Units)	---	8.63	8.26	4.72	9045B

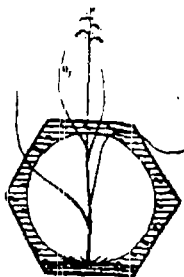

Stephen R. Johnson, Laboratory Director

P.O. Box 8326 • 205 Main Terminal • Capital Airport • Springfield, IL 62791-8326 • (217) 753-1148

Form PAS-TCLPM



020



Prairie Analytical Systems, Inc.

An Environmental and Agricultural Testing Laboratory



Page 1 of 1

CSD Environmental Services, Inc.
2220 Yale Boulevard
Springfield, IL 62703

Date Sampled: 25 September 1996
Date Received: 26 September 1996
Date Analyzed: 27 September 1996
Date Reported: 27 September 1996

Project: Chemetco

PAS Project Code: CSD-120

Sample Description: W-1


PAS Sample No.: 9609263998

Total Metal Analysis

Analytes	Detection Limit mg/l	Result mg/l	E.P.A. Method
Cadmium, Total	0.004	1.09	6010A
Lead, Total	0.042	0.64	6010A
Zinc, Total	0.002	2.59	6010A

Miscellaneous Analysis

Parameters	Detection Limit	Result	E.P.A. Method
pH (Units)	---	8.29	9040A


Stephen R. Johnson, Laboratory Director

P.O. Box 8326 • 205 Main Terminal • Capital Airport • Springfield, IL 62791-8326 • (217) 753-1148

Form PAS-RWMETAL



Chain of Custody Record

001 1 1996

Page 1 of 1

Prairie Analytical Systems, Inc. - 205 Main Terminal, Capital Airport - Springfield, IL 62707

Client	CSD Environmental	Project	Chemtaco
Address	2220 Yale Blvd.	Contact Person	Marc Sinemering
City, State, Zip	Springfield, IL 62703	P. O. #/ Invoice to:	
Phone Number	522-4005	Facsimile Number	

Sample Description (10 Characters ONLY)	Sample Matrix	Sampling		Container		Preservative	Analysis Requested	PAS Sample Number
		Date	Time	Size	No.			
E-1		9/25	3:00p	4oz	1		pH, TCLP (Pb, Cd, Zn)	3995
E-2		"	3:20p	"	1		"	3996
E-3		"	3:38p	"	1		"	3997
W-1		"	4:22p	500ml	1		" total Pb, Cd, Zn per Harry C. 9/26/96 9:05am	3998

Relinquished by: <i>Shane A. Thorne</i>		Received by: <i>Sarah A. Tully</i>	
Date: <i>9/26/96</i>	Time: <i>9:00 am</i>	Date: <i>9/26/96</i>	Time: <i>9:00 am</i>
Relinquished by:		Received by:	
Date:	Time:	Date:	Time:

SPECIAL INSTRUCTIONS:

PAS Project CODE: *CSD-120*